

distance between the condyle and the base of the upper incisor, while in *mellandi* it is still shorter, equal to no more than the distance between the condyle and the posterior edge of the postdental palate. Hinder edges of anterior palatal foramina distinctly in advance of tooth-rows, the latter being parallel to each other, *blainei* in both respects resembling *ansorgei*. In *mellandi* the tooth-rows are divergent anteriorly, while in *mehowi* they are divergent posteriorly.

Cheek-teeth remarkable only for their large size, the anterior three above occupying as great a length as the whole tooth-row in other species of the group.

Skull-measurements in millimetres.

	<i>blainei</i> , type.	<i>mehowi</i> .		<i>ansorgei</i> .	
		$\frac{4}{4} \frac{9}{130}$ ♀.	$\frac{4}{4} \frac{9}{126}$ ♂.	$\frac{13}{11} \frac{5}{3}$	$\frac{5}{5} \frac{9}{74}$
Condyle-basal length	64.3	52	53.5	54.7	58
Occipito-nasal length	57.9	48	47.7	..	53.7
Zygomatic breadth	47.9	38.1	39.5	38.8	43.4
Occipital width	29.5	25.8	25	25.8	27.5
" depth (median)	18.4	16	16.2	..	18
Condyle to <i>m</i> . ³	25.7	21	21.7	22.4	22.5
Diastema	21.3	17.8	17.8	17.3	21.6
Cheek-teeth (alveolar).....	12.4	9	9.5	9.8	9.3
" (at grinding surface).	10.6	8.5	9	9	8.4±

Dimensions of type (measured in the flesh) :—

Head and body 251 mm. ; tail 27 ; hind foot 51.

Type. Adult male. B.M. no. 20. 4. 27. 1. Original number 2. Collected at Chisongwe, Luando River (altitude 4000'), Nov. 14, 1919, and presented to the British Museum by Mr. Gilbert Blaine.

Hab. Central Angola.

XLIII.—Seven new Species of Pselliophora (Diptera, Tipulidæ). By F. W. EDWARDS.

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THE types of the species described below are in the British Museum, except that of *P. reversa*, which is in the Oxford Museum.

Pselliophora nigribasis, sp. n.

Head and its appendages orange, only the last joint of the palpi, the tip of the last joint of the antennæ, and the sides of the rostrum blackish. Flagellar joints close-set, more convex below than above; first flagellar joint slightly longer than the first scapal. *Thorax* orange above; a spot on the front of the præscutum and another on the tip of the scutellum, also the whole postnotum blackish. *Pleuræ* blackish, an orange spot on the pteropleura. *Abdomen* with segments 1-3 and 7-9 mainly black, 4-6 entirely orange; 2 with basal lateral orange spots, 3 with a basal orange band, broadest in the middle. *Legs* with the coxæ, trochanters, and bases of femora blackish, the black more extensive on the middle and hind femora, and reaching to nearly the middle; tips of tibiæ and metatarsi, and whole of last four tarsal joints blackish; remainder of legs orange; no trace of white tibial rings. *Wings* orange-yellow; the whole tip from the cord outwards blackish; base also blackish, also nearly the whole of cells *Cu*₂, *An*, and *Ax*; a blackish streak above *Cu* for the whole of its length (including the branches); another shorter blackish streak above apical part of *M*. *Rs* not spurred; cell *M*₁ rather broadly sessile; cells *Cu*₁ and *Cu*₂ of equal width on margin; *m-cu* punctiform. *Halteres* blackish.

Length of body 20 mm.; wing 17 × 5 mm.

SIKKIM: Ataran Valley (*Col. C. T. Bingham*); 1 ♀ (type).

A second female from the Runjitt Valley, iv. 1894 (*Col. Bingham*), is rather smaller, and shows no dark streaks above *M* and *Cu*, but is certainly conspecific. The colour of the femora will at once distinguish it from all other described species. (Brunetti mistakenly attributes a similar coloration to *P. insignis*, Meij.)

Pselliophora reversa, sp. n.

Head dull reddish orange, under surface and sides of rostrum dark brown. Palpi with the basal joints brown, terminal joint blackish. Antennæ with the scape orange, flagellum entirely black; first flagellar joint slightly shorter than the first scapal. *Thorax* mostly dull reddish orange above; pronotum with two large blackish spots; præscutum with a black area on the front margin, connected by an ill-defined dark line, with a smaller black area just in front of the suture; scutum, scutellum, and postnotum mainly black; pleuræ entirely black. *Abdomen* dull black; last segment shining black; segments 4 and 5 reddish orange. *Legs*

coloured much as in *P. nigribasis*, but the black on the middle femora extends to two-thirds and on the hind femora to five-sixths of their length. *Wings* entirely black, except for a small transparent streak in cell *An*. *Rs* with a trace of a spur; venation otherwise like *P. nigribasis*. *Halteres* black.

Length of body 20 mm.; wing 16.5×5.5 mm.

BURMAH (*Cutter*, 1868); 1 ♀.

Comparable only with *P. nigribasis*.

Pselliophora binghami, sp. n.

Head dull orange; last joint of palpi and flagellum of antennæ entirely black. First flagellar joint as long as first scapal; remaining flagellar joints close-set, convex beneath. *Thorax* uniformly orange, slightly shining. *Abdomen* orange; first segment black except at base and tip; second, third, and sixth with velvet-black apical bands; 7 and 8 velvet-black; 9 shining black. *Legs* black; coxæ and trochanters orange; basal two-thirds of front femora and underside of middle femora brownish orange; all tibiæ with distinct white basal rings, those on the hind tibiæ quite broad. *Wings* pale yellowish, the veins all dark brown; tip from the cord outwards dark brown, leaving the base of the discal cell and nearly the whole of cell M_3 of the yellowish ground-colour; hind margin (except in cell Cu_1) slightly darkened. *Rs* not spurred; cell M_1 rather broadly sessile; cell Cu_2 nearly twice as broad as cell Cu_1 on margin; *m-cu* punctiform. *Halteres* black.

Length of body 16 mm.; wing 14×4 mm.

BURMAH: no exact data (*Col. C. T. Bingham*); 1 ♀.

Apparently nearly allied to *P. isshikii* (*Matsumura*), but quite distinct.

Pselliophora ophionea, sp. n.

Whole body deep dull orange, excepting only the pectinations of the antennæ, the tips of the lobes of the ninth tergite, the tibiæ and tarsi, and the tips of the femora, all of which are black. Hind tibiæ with a very distinct pale ring close to base. *Wings* with membrane and veins orange, of a rather lighter shade than the body; costa blackish except towards the base; a rather broad fuscous streak extending from just below the orange stigma obliquely to the hind margin at the tip of Cu_1 ; from this point to the base of the wing the hind margin is rather broadly fuscous. Pubescence of hind femora moderate, uniform. *Hypopygium* with the ninth tergite

deeply bilobed, the lobes triangular, with blackened edges and short pubescence. Eighth sternite simple. Ninth sternite divided apically into five parts—a pair of pubescent upper lobes, then a pair of bare intermediate lobes each ending in an upwardly pointing spine, finally a bare, internally grooved, bluntly pointed ventral lobe. Claspers hidden.

Length of body about 13 mm.; wing 17×5.5 mm.

SARAWAK: Mt. Matang, 1000 ft., 22. i. 1914 (*G. E. Bryant*); 1 ♂.

This very distinct species needs comparison with no other.

Pseliophora stigmosa, sp. n.

Head orange. Palpi orange, the tip of the last joint darkened. Antennæ with orange shaft and black pectinations. *Thorax* entirely orange. *Abdomen* orange, becoming more brownish posteriorly. *Hypopygium* with the ninth tergite deeply bilobed, the lobes clothed basally with long orange pubescence, and drawn out into two long black points. Eighth sternite with a narrow and rather deep emargination, clothed with rather long orange-brown pubescence. Ninth sternite with a pair of elongate, pointed, hairy upper lobes, blackened towards their tips; ventral lobe emarginate apically, with a double groove. Claspers black, square-ended. *Legs* orange, tibiae, tarsi, and tips of femora black; hind tibiae with a narrow but distinct yellow ring at the base; traces of similar rings on the other tibiae. Pubescence of hind femora moderate, uniform. *Wings* orange; tip black from the cord outwards, including almost the whole of cell Cu_1 ; a blackish blotch surrounding Rs except at base and tip; M broadly margined with black except towards base; cells Cu_2 , An , and Ax mostly blackish except towards base. On the hind margin of the wing at the extreme base is a small patch of densely crowded short, stiff, black setæ, facing a similar patch on the alula, and preceded on the wing-margin by a tuft of longish yellow hair. Rs gently curved; cell M_1 just sessile; cell Cu_1 narrower at apex than cell Cu_2 . *Halteres* orange.

Length of body about 12 mm.; wing 12×3.8 mm.

N. INDO-CHINA: Ban Son Mon, 23. x. 1914 (*R. V. de Salvaza*); 1 ♂.

This species has much resemblance to *P. ardens*, Wied., but differs in many details. The peculiar patch of bristles at the base of the wing is no doubt a sexual character. It occurs also in the male of *P. incunctans*, Walk., but not in the female.

Pselliophora quadrivittata, sp. n.

Head orange, with a short orange pubescence. Palpi orange, the last joint black. Antennæ orange, the flagellum black on the underside, the last joint or two being entirely black. First flagellar joint quite twice as long as the second, and a little longer than the first scapal; flagellar joints rounded beneath. *Thorax* brownish orange; præscutum with four distinct black stripes; scutum with two broad black stripes. *Abdomen* brownish orange; an irregular dark brown median dorsal stripe on segments 1-3; segments 7-9 entirely blackish. *Legs* stout, brownish ochreous; tarsi and hind tibiæ darker; tips of front and middle femora darkened above; hind femora with a black apical ring; hind tibiæ with a narrow but distinct whitish subbasal ring. *Wings* yellowish; veins dark brown, except Sc, R, and R₁, which are yellowish. Stigma dark brown; a dark brown cloud beneath it extending across bases of cells R₃, R₅, and M₁, darkest where it crosses the veins; tip of discal cell and base of Cu_{1a} also slightly clouded with brown. Rs curved, nearly three times as long as R₂₊₃; cell M₁ sessile; cell Cu₁ rather short, of the same breadth at the margin as cell Cu₂. *Halteres* orange, base of knob darkened above.

Length of body 18 mm.; wing 17 × 5.5 mm.

N. CHINA: purchased from Stevens, 1852; 1 ♀.

Perhaps most nearly allied to *P. stigmatica*, Meij., from Java.

Pselliophora gracilicornis, sp. n.

Head shining dark brown above, practically bare; sides, under surface, and face pale whitish yellow, with short black hair. Palpi light brownish, terminal joint darker. Antennæ more than twice as long as the thorax. First scapal joint swollen, pale yellow, clothed beneath with long black hair. Flagellar joints dark brown, their tips rather broadly and conspicuously yellowish. First flagellar joint nearly twice as long as the first scapal, slender and cylindrical, with the usual triangular ventral enlargement beyond the middle. *Thorax*: pronotum dull orange; propleuræ dull blackish. Mesonotum shining, bare; ground-colour yellowish, præscutum with three broad blackish stripes, the lateral ones extending on to and occupying nearly the whole of the scutum. Scutellum orange-yellow. Postnotum dark, with yellowish markings, both it and the scutellum with some dark hair. Mesopleuræ pale whitish yellow, with dark brown markings. *Abdomen* orange-yellow; segments 1 and 2 with

narrow black apical bands; tergites 6 and 7 and sternite 8 black; sternites 6 and 7 with a black mid-ventral line. *Hypopygium* yellowish, black at the tip and along the edges of the deep groove of the ninth sternite. Eighth sternite simple. Ninth sternite complicated, its structure not readily discernible; in the mid-ventral line it terminates in a black projection, backwardly directed, bifid at the tip, and deeply grooved beneath. Ninth tergite with a rather shallow V-shaped emargination. *Legs*: front and middle coxæ whitish yellow, hind coxæ orange-yellow. Femora slender, slightly enlarged at the tips, brownish, with black pubescence, which is somewhat longer on the inner and under side of the hind femora. Tibiæ blackish, with distinct white rings at the base. Tarsi blackish. *Wings* strongly brown-tinged, the stigma darker; a rather indistinct whitish band before the stigma extending from near the costa across to the base of the discal cell; whitish streaks in the centres of cells *R*, *M*, *Cu*₁, *Cu*₂, *An*, and *Ax*. *Rs* very little longer than *R*₂₊₃, nearly straight. Cell *M*₁ stalked, the stalk nearly a third as long as the cell. Cell *Cu*₁ rather long, of the same breadth on the wing-margin as cell *Cu*₂. *Halteres* blackish, the apical half of the knob white.

Length of body 12 mm.; antennæ 7 mm.; wing 11 × 3·8 mm.

ASSAM: Khasi Hills (purchased from E. Heyne); 1 ♂.

This species is very distinct from all others in the British Museum on account of the length and slenderness of the antennæ, shown particularly in the first flagellar joint. It is probably closely allied to *P. flavofasciata*, Brun., while the distinct stalk to cell *M*₁ and the slender hind femora may indicate a distant connection with *P. leta*, F., and *P. taprobanes*, Walk.

XLIV.—Two remarkable new Ruteline Beetles from Indo-China. By GILBERT J. ARROW, F.Z.S., F.E.S.

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[Plate X.]

THE very remarkable group of Rutelinæ the males of which have the mandibles greatly developed, as in the stag-beetles, appears to have its headquarters in Indo-China, whence a large proportion of the known species have been brought.